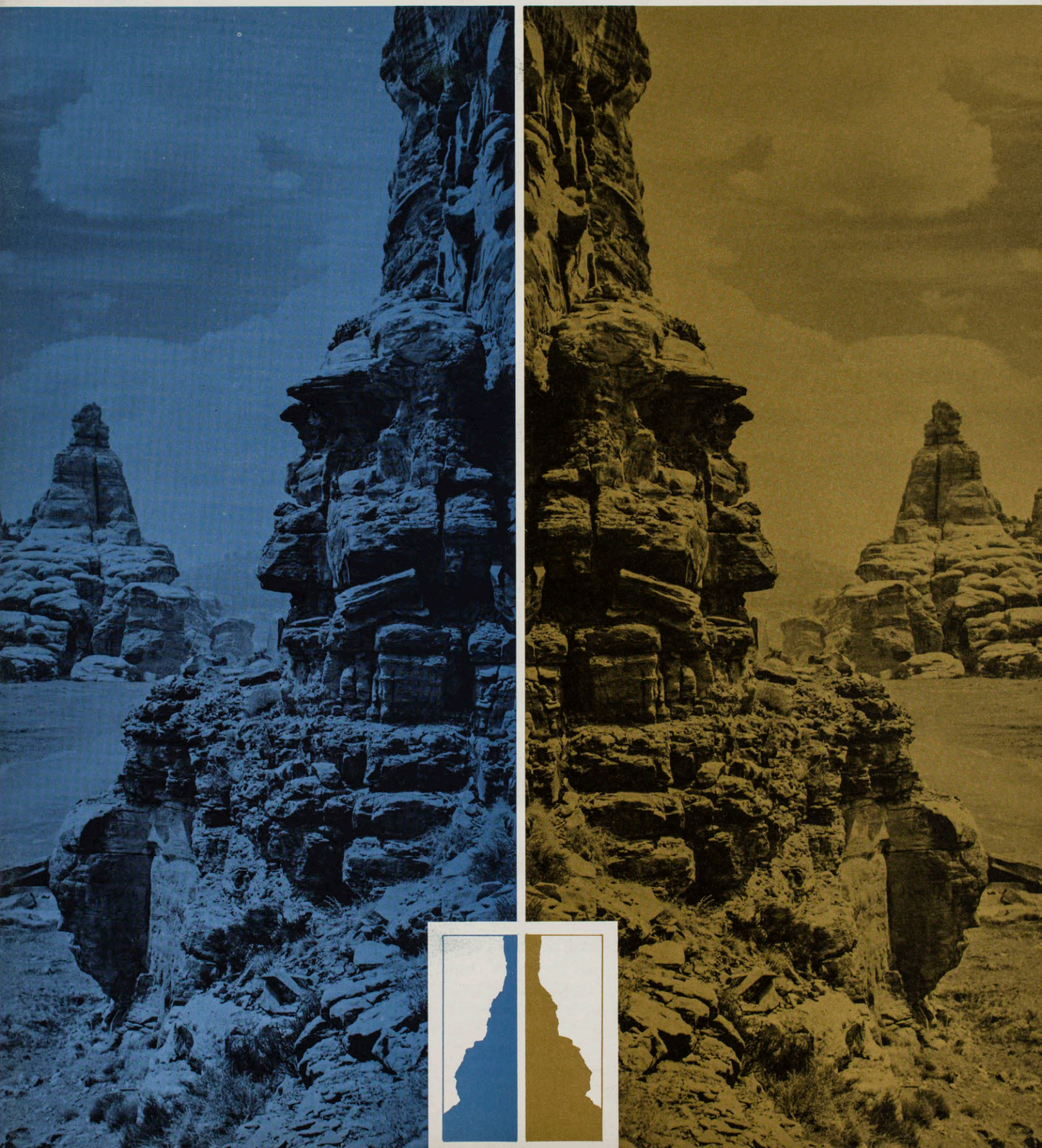
MUSEUM ALLIANCE

QUARTERLY

LOS ANGELES COUNTY MUSEUM/VOLUME 3 • NUMBER 3

STANDING UP COUNTRY

Los Brincadores / Stimulus to the Bio Sciences /
The Little Known Research Associates / Spotlight



MUSEUM ALLIANCE

MEMBERSHIP

The Museum Alliance awaits the pleasure of greeting you as a new member if you are not now participating in our many and varied programs. Publications, films, family participation and children's programs, special events in and away from the Museum—all these are yours to enjoy . . . among others.

Privileges and Pleasures of Membership are:

1. *A subscription to the Museum Alliance* QUARTERLY
2. *Invitations to the* NEW DIMENSIONS TO DELIGHT *series of family participation programs—not open to the public*
3. *Summer science excursions for children*
4. *The monthly* CALENDAR OF EVENTS *from the Los Angeles County Museum*
5. *50% discount on tickets for the Science and History Lecture Series*
6. *20% discount on most items at the Museum Bookshop*
7. *Announcement for the annual Film Circuit*
8. *Announcement for the annual Where-in-the-World travel series*
9. *Invitations to previews and receptions for the new exhibitions and to meet lecturers*
10. *Additional selected publications*
11. *Other bonus rewards*

NEW DIMENSIONS TO DELIGHT

The Museum Alliance members series, *New Dimensions to Delight,* has proved to be a huge success again this season. The opening event, a special tour of the Plaza area now under restoration, was originally planned for a maximum of 200 . . . however, 500 were issued tickets after arranging for only families with children over 12 years of age to attend. This event, under the direction of architect Burnett C. Turner, brought in a record number of thank you letters. *It is always so nice to hear from you and it helps us plan for the future.*

Over a thousand members with children of all ages were on hand in November to enjoy a fascinating lecture and film on whales delivered by Dr. Raymond M. Gilmore. An almost unheard of situation occurred as children sat transfixed and did not stir for water during the program.

As a repeat event this year the Grey Whale Charter Boat trips have proven to be as popular as they were when first sponsored in 1964. Three full weekends in January have been set aside for the exclusive use of our members at the San Diego dock.

A Day in the Field, our March excursion, has a long waiting list and if possible additional assistance will be secured for a third weekend—there are now four days planned rather than the one originally announced.

April's exciting Fiesta at the Bixby Ranch was an immediate sell out. The Bixby family graciously gave us an extension on numbers—but the waiting list is still long.

In May our nature film and wild flower show will close the series for 1964-65 with an exciting event for the many who have requested tickets.

If you enjoy these programs we would like to hear from you . . . and many of your friends may wish to attend with you as members next year. The scope of our programs depends upon our numbers—sponsor a new member this month.

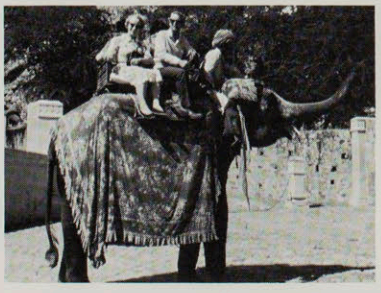
Mrs. Wynn Hammer, Museum Alliance Docent, leads a group in the Plaza tour on October 17th.

IT'S A BIG, WIDE, WONDERFUL WORLD

The Museum Alliance Round-the-World (in 60 days) tour returned home in mid-November and the reports have been nothing but grand. From a letter of gratitude from Freda Haffner: "What a vacation, 'Sans Souci' . . . especially as I learned that most of the members of the tour seemed to be fugitives from care and responsibility—it was just what most were seeking. It's fantastic, fabulous what one can see, learn and experience in such a short time. Our fine and experienced leader carried all responsibility for tickets, luggage, transfers, customs, etc., etc., which could have been really troublesome and time consuming . . . leaving us free to take care of ourselves and experience the marvelous things in each of the countries we visited."

In her letter she spoke of the beauties of the garden-countryside of Japan; Hongkong bejeweled with lights as they flew over the harbor at night; Bangkok with its temples and fairy princesses dancing in fine hotels at night; India with its out of the world Himalayan peaks; Darjeeling with Mt. Everest in the glory of sunrise; Iran a delightful surprise; Roman temples in Lebanon; the Pyramids that are "real"; the dignity of Greece and the friendliness of her people; and Europe as dessert—with the Vienna opera and the woods in autumn colors.

It pleases us to have been able to present this opportunity for our members and to know how much it was enjoyed by the 25 who traveled together.



Members of the Museum Alliance Round-the-World group tour enjoying local transportation in Jaipur, India.

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MUSEUM ALLIANCE

QUARTERLY

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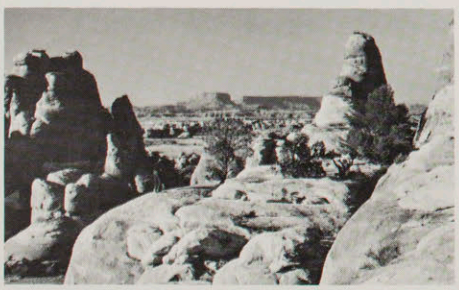
The Los Angeles County Museum QUARTERLY is published for the MUSEUM ALLIANCE. Quarterly staff this issue: Lucille Libow (editor), Harry Pack, Jesse Perez, (art editors), Susan E. Barrett, Doris Hellman, Elizabeth S. Hunt, Katherine Jenney, Eleanor B. Lehner (assistant editors). QUARTERLY Committee: Theodore Downs, Herbert Friedmann, Ruth I. Mahood, Gretchen Sibley, Fred S. Truxal, Robert Weinstein. Armando Solis (Museum Photographer), Mary Butler (Museum Illustrator).

C. Gregory Crampton, Ph.D., has been a professor of history at the University of Utah since 1945. He has also taught at California, Northwestern, and with the University of Maryland overseas program. From 1957 to 1963 he supervised an archeological field program of historical salvage for the National Park Service in the canyon country of the Colorado River now covered by Lake Powell. An associate editor of The American West, *he is a Fellow of the Utah Historical Society and the author of a number of books and articles covering a wide range of subjects.*

The text of the following article is adapted from his book, Standing Up Country: The Canyon Lands of Utah and Arizona, *published by Alfred A. Knopf and the University of Utah Press in association with the Amon Carter Museum of Western Art. The photographs are also from the book.*

One of the superlatively beautiful parts of the earth is the grand sweep of country between the Book Cliffs in Utah and White Mesa in Arizona and between Bryce Canyon National Park and the Four Corners where Utah, Arizona, New Mexico, and Colorado meet. It is sandstone country that through the ages has been sculptured by the Colorado River and its tributaries into an intricate tapestry of plateaus, mesas, buttes, and canyons.



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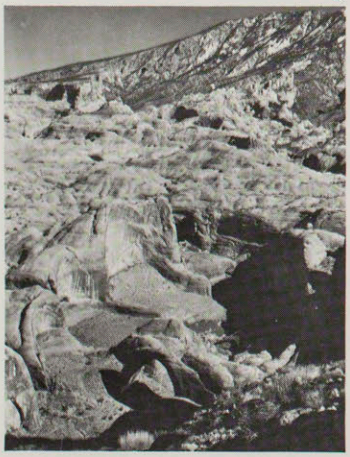
Men have seen the beauty of this land. It is ringed around with natural parks and monuments, and the newest national park—Canyonlands—is located in the center. But few men have seen the country as a whole. One reason is that no history of the entire region has ever been written. It has always been the segmented view. Local studies there were, but no general history. Yet the history was as dramatically rich as the landscape and was given a unity by the river and the canyons.



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It might be interesting to note how some of the individuals whose activities comprise a portion of its history reacted to this magnificent landscape. Among its earliest explorers were men like the Spanish Franciscan, Francisco Silvestre Vélez de Escalante in 1776, or the Mormon Jacob Hamblin at a later time. These were men of strong faith, and their writings reflect their interest in the glories of God rather than the beauties of nature.

The reports of the earliest government explorers were usually soberly factual—but not always. For example, Captain John Macomb, a U. S. Topographical Engineer, in the Needles region near the confluence of the Colorado and the Green rivers, said in 1859 that the country was "worthless and impracticable." But his geologist Dr. J. S. Newberry thought of it as being "strange and beautiful."

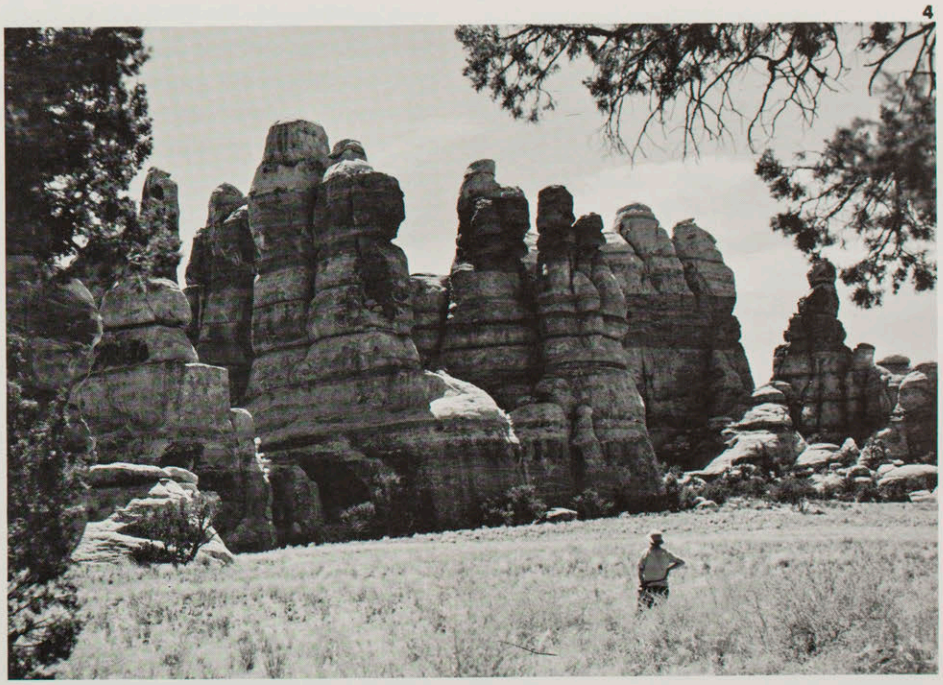
STANDING UP COUNTRY

1

The brilliant corps of scientists brought together by John Wesley Powell to study the Colorado Plateau wrote a number of distinguished monographs on geology. Captain Clarence E. Dutton's works on the *High Plateaus* and the *Grand Canyon* are happy combinations of geological literature and belles-lettres. Standing on the high Aquarius Plateau he commented that it "should be described in blank verse and illustrated upon canvas." Looking from the rim of the plateau out over the slick-rock wilderness of the canyons of the Colorado in Utah he saw in it a "sublime panorama." He who finds himself among such grandeur "forgets that he is a geologist and feels himself a poet." Dutton's prose and his appreciation for the landscape reached its highest crescendo in his work on the Grand Canyon.

The Powell publications and the Ferdinand V. Hayden and George M. Wheeler surveys, supplemented by the efforts of capable photographers and artists, helped to form a popular image of the peripheral regions of canyon country. But they overlooked the more spectacular canyon lands. Dutton's masterpiece on the Grand Canyon, illus-

1. *Standing Up Country. The Canyon Lands of Utah and Arizona. Credit: Nelson Wadsworth.*
2. *Junction Butte From the Silver Stairs, The Needles Country. Credit: Parker Hamilton.*
3. *Navajo Mountain Dwarfs Rainbow Bridge at Its Foot. Credit: A. E. Turner.* **4.** *The Land of Standing Rocks. At the Head of Cataract Canyon. Named by John Wesley Powell. Credit: W. L. Rusho.*



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trated by W. H. Holmes, and the publication by Hayden of the beautiful Thomas Moran paintings of Yellowstone and Grand Canyon deflected public attention. In subsequent government reports, art gave way to the strict realism of photography as the best medium for purely scientific illustration.

For those who attempted to wring a living from its meager resources, the canyon country held few attractions. The prehistoric Indians were probably much more concerned with defense than view when they built small houses in the alcoves on cliffs. The Mormon villagers, faced with the stern economics of making a living from a bit of marginal land, spent little time in contemplating the aesthetics of their environment.

With more rocks than grass, the cattlemen were slow to develop an appreciative spirit for the intricate canyon country where animals were easily lost and hard to find. One of them referred to the range as a "rock jungle," and a very well-known saying is attributed to Ebenezer Bryce: "It was a hell of a place to lose a cow."

It was difficult country to travel through. Except for the laccolithic structures like the Henry Mountains and Navajo Mountain, the general topography runs together in horizontal lines. From a distance the intricately sculptured country looks like a tableland, but many who tried to cut across lots found themselves rimrocked on the edge of a mesa or plateau—on the rim of a canyon dropping away below for a hundred feet, a thousand feet or more. It is in truth a land of straight rock walls. These may be grand majestic walls or small murals. There are pilasters and columns, buttes, monuments, pinnacles, minarets, and standing rocks in infinite variety. If the distant view offers a horizontal appearance, the close-up is vertical. As someone nicely said it years ago: "There is as much country standing up as there is laying [sic] down."

Trying to find their way through the canyon country, few of the early travelers seem to have appreciated that the whole panorama was done in color. There is little vegetation. Instead, the bare rock itself gives color to the landscape—red, orange, pink, chocolate, brown, purple, yellow, white, blue, green, and gray. Shades of red predominate. The rock colors the land; it reflects on and tints the clouds above and stains the waters that drain the land. Though they may not have had much of an eye for color, it is safe to say that the residents of the canyon country most appreciative of their environment were those who found it an excellent place to hide: outlaws, rustlers, and renegade Indians.

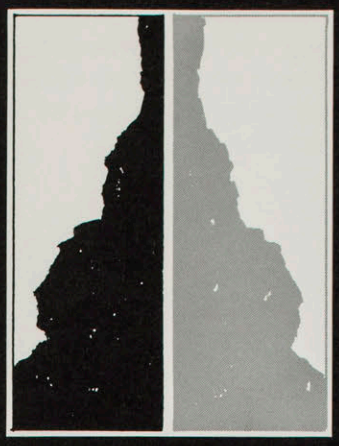
The gold miners came in 1883 and prospected the canyons for twenty years without finding many bonanzas. And they developed little interest in the landscape except to dig gold out of it. If the prospectors found few good diggings, they were the first to explore the canyons thoroughly. They stumbled upon the remains of prehistoric peoples, and they picked their way through the jumbled rock wilderness, first discovering many of the scenic wonders that seemingly meant little to them. Those missed by the miners were found by the stockmen who ranged cattle along the canyon rims and became familiar with the country following pioneer settlement of the region in the 1880's.

Thus the three natural stone bridges in White Canyon were known both to miners and stockmen, but they attracted no widespread attention until they were visited by Horace J. Long, while he was settling the affairs of the bankrupt Hoskaninni Company, a vast gold-dredging venture in Glen Canyon. He visited the bridges in the spring of 1903, and articles about them by W. W. Dyar of his party were published in the *Century Magazine* the next year, the first description of the bridges to reach the general public. The great stone bridges were pictured as being so much larger than Virginia's famous natural bridge, a standard illustration in elementary geography books, that they seemed unbelievable. In 1905 the Salt Lake Commercial Club sent a party to see the bridges. One of the members was the English-born artist, H. L. A. Culmer, an admirer of Turner and Thomas Moran.

In White Canyon, Culmer measured the bridges and made sketches from which his famous paintings were made. Culmer was captivated by the canyon country. The "scenes of magnificent disorder," as he called them, and the "bewildering spectacles of mighty shapes" will insure that "Utah must always be the land sought by the explorers of the strange and marvelous." In an article in the *National Geographic Magazine* for March, 1907, which contained photographs of Culmer's paintings of the bridges, E. F. Holmes of the Salt Lake Commercial Club urged the formation of a national park. In the summer of 1907 Dean Byron Cummings of the University of Utah School of Letters and Sciences, cooperating with the Archeological Institute of America, organized a party to investigate the bridges and archeological ruins in the vicinity. His report to the General Land Office was the basis for Theodore Roosevelt's proclamation creating *Natural Bridges National Monument* in 1908. There is little doubt that the president was also swayed by the Holmes article and the Culmer paintings.

Natural Bridges National Monument was the first national monument or park in Utah, and in the general area it was preceded only by *Mesa Verde National Park* and *Petrified Forest National Monument,* both dating from 1906. The creation of one national monument in the canyon country was soon followed by two more. In the summer of 1909 Dean Cummings and W. B. Douglass of the General Land Office discovered the magnificent stone arch of Rainbow Bridge on the western slope of Navajo Mountain. During the same season Cummings discovered the imposing prehistoric ruins of Inscription House and Betatakin; these were enclosed within *Navajo National Monument* proclaimed in 1909 (enlarged in 1912 to include Keet Seel ruin) followed by the creation of *Rainbow Bridge National Monument* in 1910.

The formation of these national monuments, together with the additional discoveries of archeologists working in the Four Corners area, popularized the eastern side of the canyon country as a primary recreational and scenic area. Tourists came to see the natural bridges and the dramatic prehistoric ruins. John Wetherill, from his trading post at Oljeto and later at Kayenta, and Zeke Johnson from Blanding guided many parties to see these wonders. Numbers of the visitors like Theodore Roosevelt, Zane Grey, and Charles Bernheimer, were articulate men whose writings further popularized the eastern canyon lands.



"It was a hell of a place to lose a cow"

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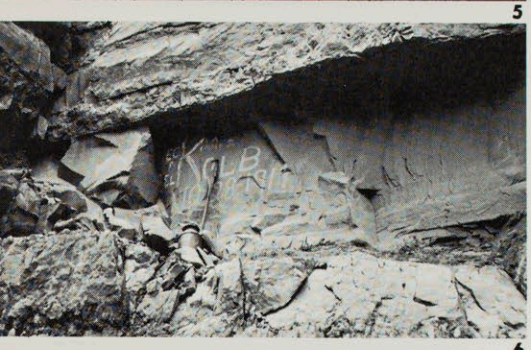

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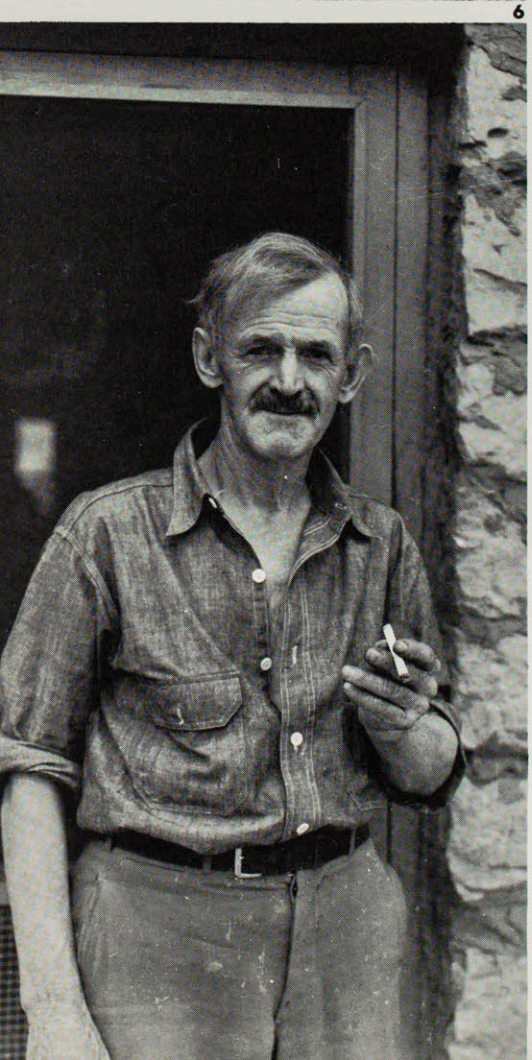

The recreational growth of the western side of the canyon country developed more slowly. Although *Zion National Park* dates from 1909, *Bryce Canyon National Park* was not established until 1928, and *Capitol Reef National Monument* not until 1937. These parks, like those on the eastern side, were peripheral to the heart of the canyon country, and the public interest tended to focus on them rather than on the region as a whole.

After the Powell voyages in 1869 and 1871, travel for scientific purposes on the Colorado River was not repeated until the first decade of the twentieth century when government reclamation surveys were begun; recreational use of the river began at about the same time. The publication of Frederick Dellenbaugh's *Romance of the Colorado River* in 1902, followed by his *Canyon Voyage* in 1908, the first satisfactory account of the details of the second Powell voyage, did much to stimulate an interest in river travel. One of the more important canyon trips purely in the spirit of adventure was made by Ellsworth and Emery Kolb. Using Dellenbaugh's *Canyon Voyage* as a guide, they left Green River, Wyoming, in September, 1911, and reached Needles, California, in January, 1912, after having made the first motion pictures in the canyons.

By 1922, when the Colorado River Compact was signed, creating the machinery whereby the river and the canyons were to be harnessed and conquered in the interests of reclamation, the general public was beginning to recognize the beauty of the canyon country of southeastern Utah and northeastern

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8

Arizona as a place of beauty. But it was still a segmented view. The focus was largely on the area around the edges, where the parks and monuments were located, or on the river canyons. And to a large extent this is still true today, al-

5. *Kolb Brothers Inscription in Cataract Canyon. The Kolb brothers were among the first to boat through the canyons of the Colorado for the adventure of it. Their photographs, including the first motion pictures, helped to create a public image of the canyon lands. Credit: C. Gregory Crampton.* **6.** *From Oljeto, and later from Kayenta, John Wetherill guided many tourist parties deep into the canyon land country of Utah and Arizona. Credit: Museum of Northern Arizona.* **7.** *Clarence Edward Dutton. His geological monographs were happy combinations of scientific writing and belles lettres. Credit: U.S. Geological Survey.* **8.** *H. L. A. Culmer. His paintings of the natural bridges and of other scenic features of the landscape of Utah and Arizona did much to create a public appreciation for the region. Credit: Courtesy Kenneth A. Culmer.* **9.** *Room with A View. Prehistoric Ruined Houses (in shaded area top center) on White Mesa in Arizona. Did the ancient Indians build in places like this for defense or did they like the view? Credit: William C. Miller.*

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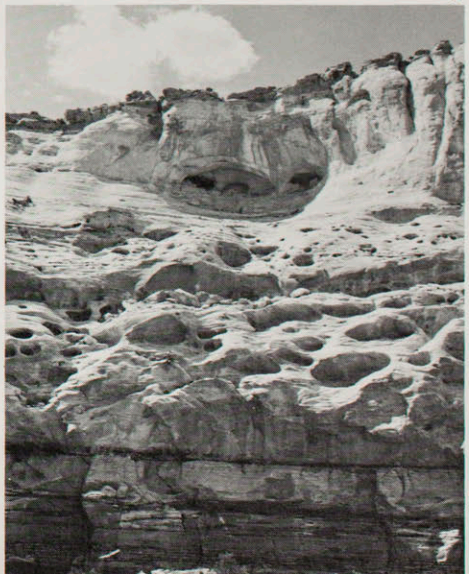
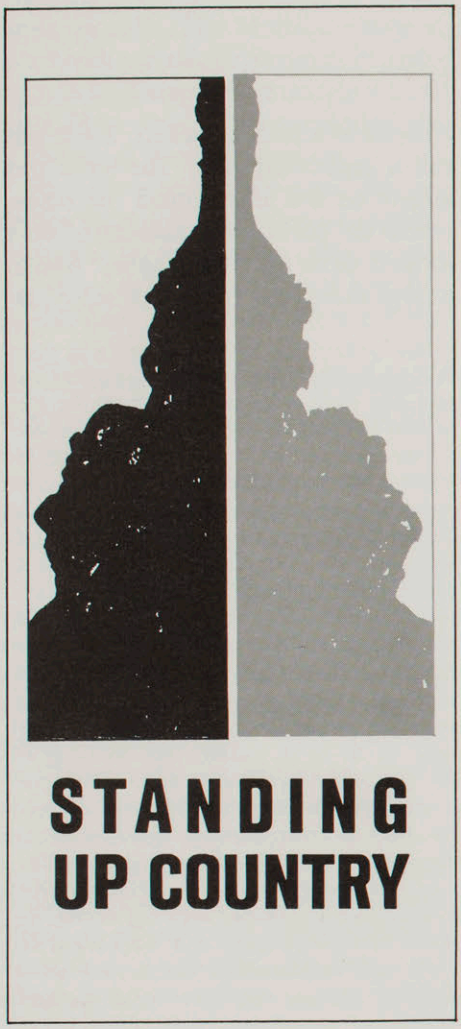


though *Canyonlands National Park* and the *Glen Canyon National Recreation* area embrace much of the most spectacular parts of the canyon scenery.

One of the objectives of *Standing Up Country* and of the exhibition created by the Amon Carter Museum of Western Art is to present through history and art an image of a truly great country in its entirety, a place with significant and harmonious unity about it that deserves the fullest appreciation by man.

THE EXHIBIT



STANDING UP COUNTRY, the exhibition which will open at the Los Angeles County Museum in April 1965, represents the combined efforts of numerous and diverse experts from many parts of the country. Originally proposed in 1962 by the Amon Carter Museum of Western Art of Fort Worth, the exhibit came into being through the collaborative endeavors of the Texas museum, the University of Utah, the Utah Tourist and Publicity Council, and several branches of the Federal government.

The exhibition focuses upon the towering landscape of southeastern Utah and the northern fringe of Arizona, a region rarely visited except by hardy individuals in jeeps, rubber rafts, or low flying aircraft. One doesn't walk into this country, or rather, not many persons have since Father Escalante managed a crossing of the Colorado River in 1776. It is too vast, too dissected, too wide, too high.

Dr. William Lee Stokes, Chairman of the Utah University Department of Geology, offers this comment: "There are unique circumstances; a high—very high desert, with a well developed drainage pattern and water supply to feed the rivers which cut through the desert. It adds up to a high rate of erosion. The water is there and the elevation is high. Something has to give!"

This fantastic wilderness is the result of the gradual grinding of the bare rock surfaces by the rivers and streams of the Colorado drainage. It is the great channel into which have emptied a myriad million of streams, rivulets, torrents, and gullies, each carrying a bit of the barren surface to the sea. The region is too vast to be easily defined, so some limitation had to be established. An arbitrary boundary for the exhibition coverage was agreed upon; the Book Cliffs in the north, Four Corners on the east, Glen Canyon Dam to the west, and Monument Valley in the south, embracing about 18,000 square miles. The exhibition gives emphasis to the Utah State and Federal lands which will some day make up the proposed Canyonlands National Park.

The exhibit was prepared in Fort Worth at the Amon Carter Museum, working from a scheme for a traveling exhibition developed by the advanced design class under Christopher Cyoni of the School of Architecture, University of Utah. Historians, headed by Dr. C. Gregory Crampton, back-stopped the Museum staff research with facts and photographs drawn from detailed studies sponsored by the University of Utah in the canyon areas. Geologists provided the physiological skeleton on which to hang the narrative of the show, including a few dinosaur bones to tell of the earliest occupants of the region.

Much of this landscape will soon be inundated by the new Lake Powell which is now backing up behind Glen Canyon Dam. Dr. Jesse Jennings, anthropologist of the University, organized the story of the prehistoric occupation of the land; and the U. S. Geological Survey and the Bureau of Reclamation have brought the story up to date with materials on the modern developments which have taken place in this outlandish world of cliffs, tumbling rapids, slick rock and uranium. It is a spectral world; an awesome, unbelievable world, even in this age of unbelievable facts. What it has been to the men entering the canyons is a part of the exhibition story. The canyonlands have been many things, and today their ultimate management and utilization engage the attentions of Indians, politicians, financiers, and tourists. The "total ecology" of this country adds adventure, beauty, and opportunity to the usual scientific check-list.

The exhibit will remain in Los Angeles April 27 to July 5, 1965, when it will be sent on its circuit to other metropolitan centers throughout the United States.

MITCHELL A. WILDER, *Director*
Amon Carter Museum
Fort Worth, Texas
Exhibition Director

UTAH

Stimulus to the Biosciences

by Ashley Foster

We are now in a period of great scientific endeavor, in an age when there are more living scientists than have existed during all of history. Within our lifetime we have seen each of the sciences progress from an individual, well-defined area to a large, integrated field of knowledge. The biologist working with living organisms must now concern himself with chemistry, physics, mathematics, geology and other disciplines in order to achieve his goals.

This vast and complex field presents many problems to the young science student interested in biology and medicine, now referred to as biomedical science, or biomedicine. It is important that he become well-oriented in scientific thinking and procedure *early* in his training.

The Museum has been aware of this for many years and in 1944 established the Museum Natural Science Workshop to give special training to outstanding high school students under the guidance of the staff scientists.

It is provocative to discover that a modern museum is not merely the repository for remembrances of the past, but an active training ground for citizens of the future; not a passive institution, but one which in many areas of endeavor, helps change the character of the community.

In biomedical education, the Los Angeles County Museum has done more, perhaps, than any other institution except the Universities to assist the Southern California community. For over twenty years it has been creating and participating in biomedical programs which have attracted talented students into geology, paleontology, marine zoology, entomology and more.

Until late 1959 the only other area-wide, extra-curricular programs in the biomedical sciences were those of the Committee for Advance Scientific Training (C.A.S.T.) and the UCLA Student Volunteer Program. The C.A.S.T. is dependent to some extent upon the cooperation of the Director of the Museum's Natural Science Workshop. Because of this paucity of community endeavor, many teachers and workers felt the need to invest biomedicine with a favorable image. Bioscientists felt the neglect most keenly when they saw the tremendous proliferation of public activities, since August of 1945, which were designed to interest the gifted youngster in the *physical* sciences.

Need to Improve Instruction

Chief among the active bioscientists were Dr. Harry Sobel of the Veteran's Administration and founder of the C.A.S.T., and Miss Gretchen Sibley, who has been the Director of the County Museum's Natural Science Workshop since 1946. They and many co-workers were long impressed by the need to improve instruction and encourage the interest of gifted students in the broad field of biomedicine. They hoped to excite the superior student with the same feeling of discovery that biomedical researchers have, for example, when they search out each little secret of life from the still largely undiscovered world of the DNA molecule.

Sparked by Dr. Sobel and Miss Sibley, these teachers and workers organized late in 1959 to form a committee dedicated to the search for the means to attract superior students to biomedicine. With the Los Angeles County Museum represented, the committee began its work at the opening meeting by an examination of the status of biomedical education in the Los Angeles area. It wanted to find out how the schools and community could best meet their biomedical needs and how school and community interest in these fields could be encouraged and developed.

This committee, spurred and encouraged by the anatomist, Professor H. W. Magoun of the UCLA School of Medicine, and aided by generous financial contributions from Riker Laboratories and Beckman Industries, planned a Biomedical Careers Conference to be highlighted by a symposium on the "Pre-College Educational Program for Students in the Biomedical Sciences." The most enduring result of this Conference held at UCLA in early 1960 was the decision to establish a permanent organization. It was to be composed of representatives from interested institutions and community agencies whose purpose—like that of the conference—was to enrich the biomedical experiences of pre-college students by the development of school and community resources.

Among the more significant of the many goals decided for this newly created organization were: it should seek and make known the laboratory space and facilities available to students and teachers for research in the biomedical sciences; provide resource persons for classroom lectures and demonstrations; and the development of activities in the biomedical sciences appropriate to each season.

The A.A.B.E. is Born

The organization which developed from the May Conference later that year became a formal Association. The founders christened themselves the *Association for the Advancement of Biomedical Education,* acclaimed Dr. Magoun as its founder, and established its home in Exposition Park. The Association declared that it would further the exchange of biomedical information, determine methods of enriching the biomedical curriculum at all levels of education and, finally, develop programs through which these goals could be accomplished. The group agreed that, in order to draw upon the strengths of a larger organization and also avoid the duplication of effort, this infant Association ought to affiliate with the Southern California and the Los Angeles Industry-Education Councils. These organizations had accomplished much for education in the physical sciences and had set the pattern for what the A.A.B.E. hoped to do for the biomedical sciences. A formal application for affiliation was then made and in 1960 the A.A.B.E. became an affiliate of the larger Industry-Education Councils.

The continuing and rapid growth of this Association made it necessary to establish a formal table of organization. Therefore an Advisory Council and a Steering Committee with sub-committees were established. The Advisory Council mainly represents the major educational institutions in the Los Angeles area. It must establish the broad purposes and policies of the Association and the means whereby these may be accomplished. A Steering Committee, composed of many biomedical leaders of the community, directs the activities and carries out the programs of the Association.

Since the Association was established, many of the hopes of its founders are now being realized. The founders of the A.A.B.E. hoped, first, to improve communications with those community organizations which filled a related need; second, to obtain a wider participation of resource people in the community's biomedical activities; third, to develop an outstanding educational program unique to the A.A.B.E.; and fourth, to find sources for that ever-present and ubiquitous need for greater financial support.

A.A.B.E. Participation

There are many unrelated community groups in the Los Angeles area which have established some sort of a biomedical program to encourage gifted students to explore these fields. The A.A.B.E. participates in many of these programs. A partial listing would include the American Cancer Society's Career Incentive Program which encourages students to explore cyto-technology; a three-year experimental program for selected Beverly Hills' Elementary School pupils who are given relatively high level instruction at the UCLA Medical Center; and the Association of Science Clubs in Los Angeles County.

In the case of some community programs, it is difficult to separate the role of the Museum, of the A.A.B.E., and of the original biomedical organization. The A.A.B.E. has usurped no function; however its personnel and the organizers of many community programs are often the same persons. For example, the directors of the three major programs which existed before the A.A.B.E., Mrs. George Wasson, Jr., of the UCLA Student Volunteer Program, Dr. Harry Sobel of the C.A.S.T. and Miss Gretchen Sibley of the Museum's Natural Science Workshop are all active members of the A.A.B.E. Steering Committee. Miss Sibley is Secretary-Treasurer, and Dr. Herbert Friedmann, Director of the Los Angeles County Museum, has recently joined the Advisory Council of the Association.

The UCLA Student Volunteer Program has had students from Hanover, New Hampshire to Tillamook, Oregon as volunteers to perform the variety of biomedical tasks to be found in a thriving Medical Center. This program provides an opportunity for career inspiration and also gives young people the very real chance to serve their community.

Program for High School Juniors

The Committee for Advanced Scientific Training developed a program for gifted juniors in high school to pursue independent research during their summer vacation in the laboratory facilities of the major local universities and hospitals. About a third of the students come from the Natural Science Workshop and the rest are recommended by the science teachers of their high school. The research is primarily an individual effort and assistance from the research director is given only when needed.

When Vincent Brach, President of the Museum Student Association, decided that he was interested in the control of diseases in their natural state, he developed his own plan for research of the blood parasites of ground squirrels in Simi Valley with a view to locating the parasite which causes Chagas' disease in humans. When the summer was over, he could say with some satisfaction, "I decided on my project. I worked alone and worked out the idea and went to Dr. Haberfelde only when I had a problem."

Deanna Gin, who worked in the laboratories of the University of Southern California, was interested in neurology and the nervous system. With the assistance of Dr. Wake, she reviewed the lit-

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1. *Dr. Fred Truxal, Entomologist, instructing the Entomology class for the Museum Natural Science Workshop.*

2. *Arthur Rubenstein, both Museum and C. A. S. T. student, is shown with his research at the Sepulveda Veterans Hospital.*

Stimulus to the Biosciences

by Ashley Foster

CONTINUED

erature on nerve tissue staining techniques before she undertook her original and discovery-making study of "The Peripheral Nervous System of a Deep Sea Lanternfish, *Lampanyctus mexicanus,* and its Relation to Luminous and Lateral Line Sense Organs."

It is not hard to understand why these students regard the C.A.S.T. program as "Just wonderful!" For many of these young people it has been their first opportunity to pursue independent research.

Natural Science Workshop

As previously noted it has been over twenty years since the County Museum inaugurated its Natural Science program for outstanding secondary students. The Director is the same Miss Sibley who was a co-organizer of the A.A.B.E. Consequently the Association and the Workshop stand together in enriching and encouraging biomedical programs of the Los Angeles area.

Since 1944 some 3,000 young people have spent many weekend hours taking advantage of the opportunity to improve their regular education. They have attended lectures and participated in field activities under the direction of specialists who are the Curators of the Museum.

A typical comment which could apply to many of the students was that the Natural Science Workshop "revealed a world I hadn't known before." The informal group atmosphere made for a "pool of knowledge in which we could assist each other."

The Workshop was "not just a club." Graduates who are now parents say they would encourage their children to attend. Graduates now "return with satisfaction and pride to refresh (their) familiarity" with the Museum. The 84 percent of former students who now are making a contribution to society through one of the sciences is probably a greater tribute to the success of the Workshop than flattering quotations.

The second major challenge for the A.A.B.E. was the need to make more effective use of community resources and obtain wider participation by the biology resource people of the community. The Association now supports a number of activities designed to accomplish this purpose. In the Career Guidance Interview Program, outstanding students in the biological sciences are introduced to qualified scientists for individual discussions of the career opportunities in biomedicine. Although this program is sponsored by the Los Angeles City Schools and the Industry-Education Council, it is the A.A.B.E. which has been called to provide the scientists who will meet with the students.

Utilizing A.A.B.E.

As the result of many seminars on the best way to stimulate both teacher and student interest in bioscientific programs, the Association has had to provide resource persons for in-service training programs and compile basic science experiments suited to the elementary school class. The Association has also been called to help plan summer science workshops for teachers and meet the need for more elementary science consultants in the schools. A list of available lecture-demonstration teams along with pertinent material has been compiled for senior high school classes.

The two Science Project Centers of the Los Angeles City Schools frequently utilize A.A.B.E. personnel and equipment. Surveys were undertaken to identify the bioscience laboratory opportunities in our major universities which could be made available to both teachers and students of secondary science. The high school teachers themselves have been canvassed to determine the research they would most like to pursue so that the Association may make plans for their future. In this way the A.A.B.E. utilizes resource people to further the biomedical education of the community.

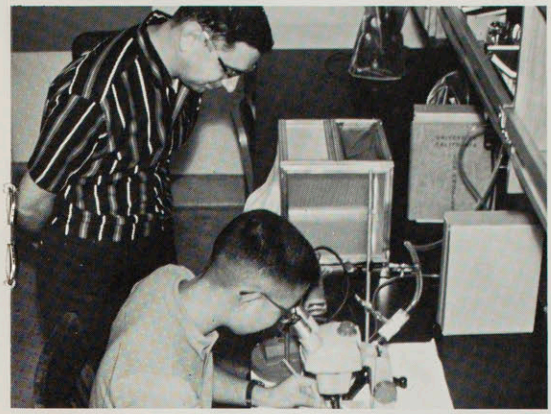
A number of unique contributions have been made by the Association to biomedical education. It is experimenting with a pilot program to make all its resources available to the school science departments and youth center leaders of one particular locale. This may help to discover which resource will be the most effective in changing the character of the curriculum and the personality of the biological sciences in the minds of the public school pupils. The science clubs of the Los Angeles area are also being surveyed so that in the future A.A.B.E. may contribute its resources to the clubs.

The Annual Christmas Lectures of the A.A.B.E., initiated in 1960, are now held at the Los Angeles County Museum. "Designed to explore frontiers of the biomedical sciences with promising young students and their teachers and to stimulate an interest in careers related to the biologic sciences" these lectures in Los Angeles originated with the Nobel Laureate Dr. George Beadle who was then a member of the A.A.B.E. Advisory Committee. The 1963 lectures were chaired by Dr. Richard Sutton of the California Institute of Technology and by Mrs. Barbara Hopper of the Los Angeles City Schools. The well-attended science lectures, followed by a question and answer period and a discussion led by student panelists, provide a high order of enrichment for the superior biology student.

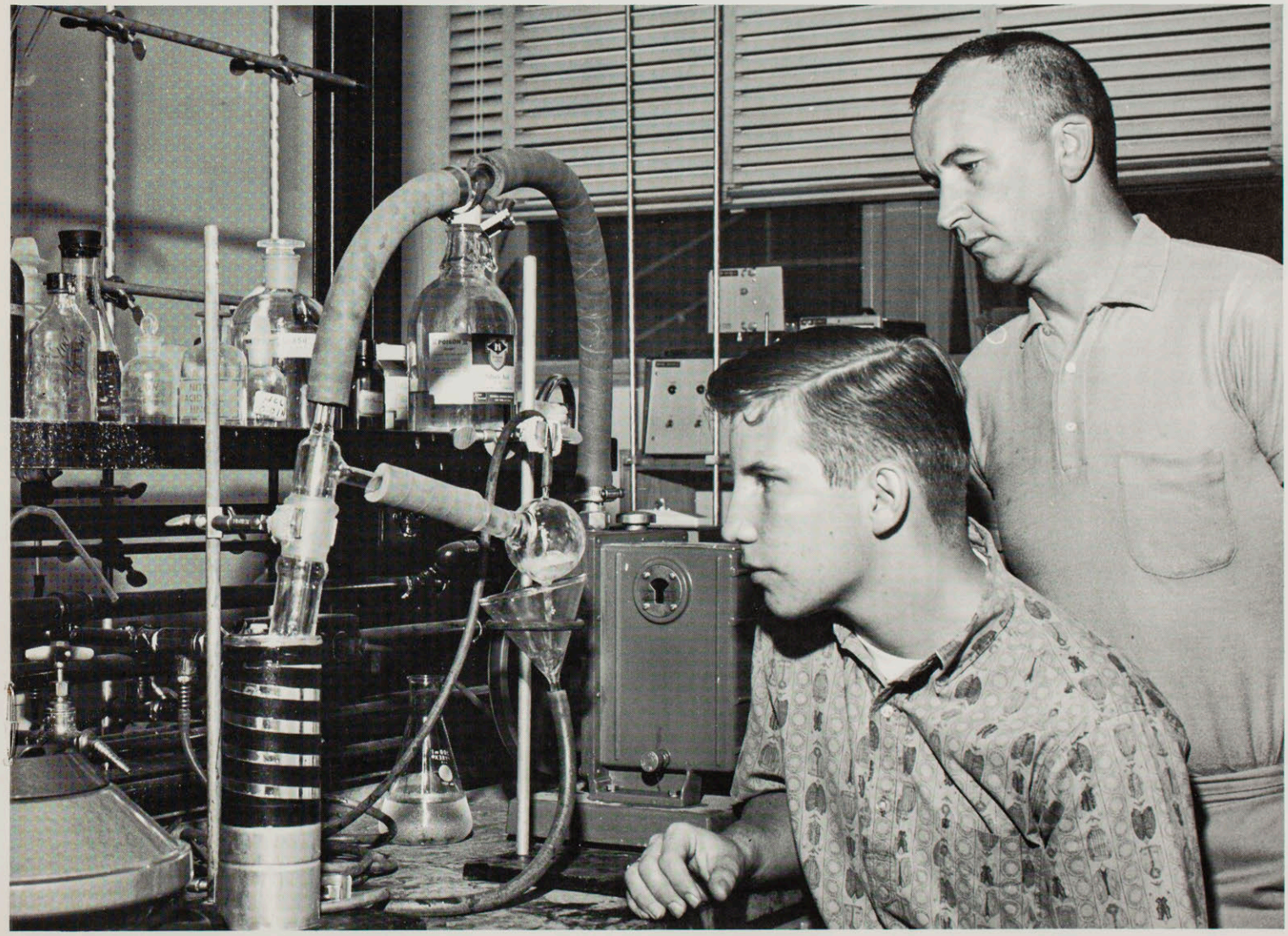
In early 1963, the Association was co-sponsor of a Bioscience Education Conference which sought to integrate the various bioscience curricula within and among the secondary schools, colleges and universities and also to coordinate the curricular efforts of these institutions. Thus through enrichment and modification of the bioscience curriculum, the A.A.B.E. seeks to develop its unique role within the community.

It plans to direct major efforts to the improvement of the biology curriculum and the training of teachers in the biological sciences. Also the Association and the County Museum, with other community agencies, will strengthen the ordinary biomedical education opportunities that are available.

With an expansion of the role played by the A.A.B.E. in community affairs may come the time when the community will discover that volunteer efforts only are insufficient. It may be that this vital activity will receive the more sustained effort that only official public recognition can afford.



3. *Assistant Chief Preparator, Robert Wade, aids Museum students Lida Low and Eleanor Nagai with their scientific illustrations.* **4.** *Debbie Craker spends many hours learning to collect and identify fossils in the Museum Paleontology class.* **5.** *Chris Ishida, both a Museum and C. A. S. T. student receives instruction from Dr. J. Belkin, U. C. L. A., on his study on mosquitoes.* **6.** *Loren Hoekzema, C. A. S. T. student, works with Dr. Bruce Carpenter at Long Beach State College where he participated in a research program.*



LOS BRINCADORES

(The Jumpers)

by Fred S. Truxal

1. *The shrub that produces the Mexican jumping bean is a relative of the Poinsettia and often attains a height of twelve feet. It is called* Yerba de flecha *or arrow-plant by the natives of Mexico. Photo by Kenneth E. Stager.*

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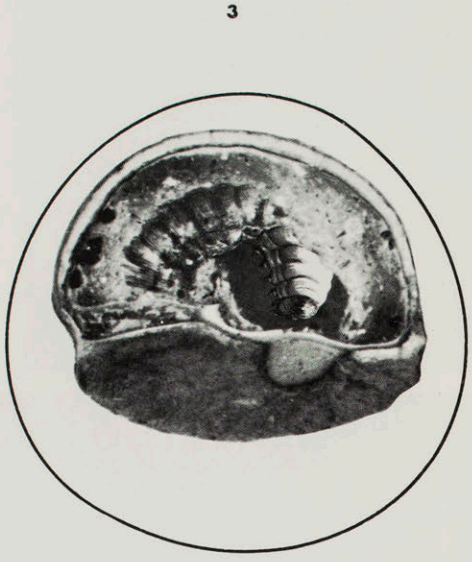


Para aquellos que tienen una imaginacion curiosa, los "Brincadores" presentan un reto. That curiosity, the Mexican jumping bean, is really a one-room apartment for the tiny caterpillar of a small bean moth that is known to scientists as *Laspeyresia saltitans*. To our neighbors south of the border and to their compatriots of Olvera Street in Los Angeles, these curiosities are known as "Brincadores," meaning jumpers.

Almost everyone has seen Mexican jumping beans, and for a century now, their mysterious ability to hop about has made them objects of much interest.

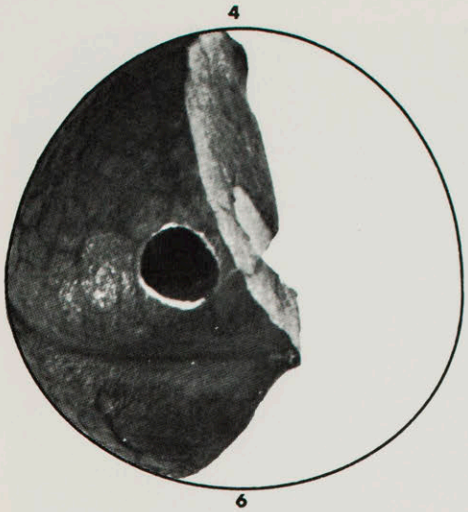
The writer's curiosity as to what puts the jump in the jumping bean was first aroused while on one of the museum's expeditions to Mexico during the month of June. One late afternoon while sitting in the patio of the Hacienda Alberto Maas on the outskirts of Alamos, Sonora, a curious chattering noise was heard emanating from a basket at the corner of the hacienda. Upon examination, the basket was found to contain hundreds of extremely active jumping beans. The writer soon learned that his host, Sr. Maas, was a jumping bean "king" of southern Sonora, and that June was the beginning of the harvest season for these curiosities.

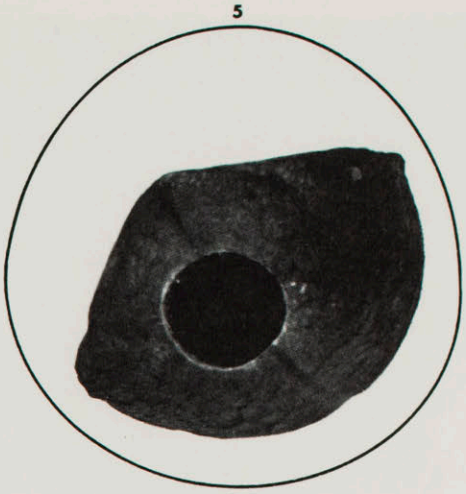
After this interesting encounter, but with many questions still unanswered, the writer was determined upon his return to the museum, to satisfy his curiosity concerning this peculiar bean.

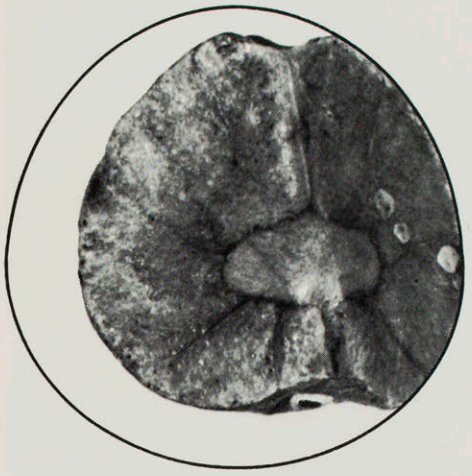
As far as modern scientific records are concerned, the story began in the year 1857 when bean specimens were sent from Mexico to England by the British Charge d' Affaires and exhibited to the Entomological Society of London. Soon thereafter, the little insect responsible for the mysterious gyrations of the jumping bean was described and given the formidable name *Laspeyresia saltitans*.

In order to better understand the life story of this "nervous" little insect, one should first consider the plant that serves as its host. The shrub that produces the bean, *Sebastiana Pringlei* is a spurge and as such, is a relative of the common Poinsettia and Snow-on-the-mountain. It often attains a height of twelve feet, is many branched, and in the months of June and July, yields the "ripe" seed-pods which possess three beans each. It is called arrow-plant or *yerba de flecha* by the natives of Sonora because its milky, poisonous sap was once used as an arrow poison. It has also been used as a fish poison. This interesting shrub grows only in the region of the Rio Mayo in southern Sonora and Chihuahua. The seed pods, containing three beans each, mature by late summer. At maturation, the pods snap open and beans can be heard hurtling through the dry brush like BB shot. This presumably serves to disperse the plants to new locations. Many of the pods, however, fail to rupture or toss their beans. If these are cut open, each is found to contain a single fat, whitish caterpillar which has eaten the contents of the bean and lined the shell with a delicate carpet of silk. These particular beans drop to the ground where they begin their careers as "jumpers."

To fully appreciate the curious habits of the Mexican jumping bean, it will be worthwhile to note the life history of the







2. *A close-up shows the seed pods (each with three beans) of the jumping bean plant. Photo by Kenneth E. Stager.*

3, 4, 5, 6. *Close-ups show abandoned jumping beans as well as one with a side cut away to show the caterpillar and the silken lining of the shell.*

7, 8. *The caterpillar of this little moth (female, left; male, right) is responsible for the mysterious gyrations of the Mexican jumping bean.*

little moth responsible for its peculiar gyrations. The moth caterpillar very closely resembles the common apple worm or codling moth (*Laspeyresia pomenella*) and indeed, is very closely related to it. In the spring of the year, the small adult moth deposits her eggs in the developing seed pods of the arrow-plant. The eggs soon hatch and for several months thereafter, the restless caterpillar eats, grows, and succeeds in producing a marketable jumping bean. When "ripe," the shell of the bean is very light, and since the caterpillar only occupies about one-sixth of the enclosed space, the slightest motion will cause the bean to rock from one flat side to the other.

In February usually, the caterpillar cuts a small circular "door" at one end of the bean, but it is not cut all the way through and so remains in place. The caterpillar itself will never use this "door" but it instinctively performs this duty so that the adult moth (having no jaws) will be able to escape its prison. Occasionally a "thoughtless" caterpillar will fail to provide a door and the small moth, having no means of reaching the outside world, dies within its confines.

After preparing a place of future egress, the caterpillar spins a slight cocoon, ceases its hitherto restless activity, and changes into the quiescent pupal stage. When spring arrives and the *yerba de flecha* again puts forth its blossoms, the pupa works part of its body through the "door," the pupal covering splits open, and the small adult moth crawls out. After unfolding and drying its wings, it is soon on its way, seeking a young bean pod on which to lay its eggs. Thus the yearly cycle is renewed.

The movements of a jumping bean usually consist of a series of very short leaps. At times, however, the activity of the caterpillar becomes more violent—turning the bean from one of its flat sides to its convex surface, spinning it around upon one end, or projecting it with an irregular rolling motion to a distance of an inch or more.

If confined in a closed box, the beans become inactive, but upon opening the box and exposing them to heat and light, activity is at once resumed. If further disturbed by being placed upon a flat surface, more violent motions soon commence and continue for considerable periods of time. This reaction to heat and light has led students to theorize that the motivating force for the jumping is an urge on the part of the caterpillar to secure itself in crevices in the soil where it will be protected from both heat and predators.

If one wishes to observe the actions of the caterpillar within the bean, he has only to remove one flat side of the bean and replace it with cellophane. The caterpillar will immediately seal the edges with silk and the movements within can then be seen as through a window. Now one can learn the secret of how the jump is actually produced. The caterpillar produces the movement by holding fast to the silken lining with its abdominal prolegs, drawing back its head and forebody, and striking the wall of the bean with its head. The caterpillar remains active for about six months and it is during this period (caterpillar stage) that the seed-pod is known as the jumping bean and as such is marketable, millions being sold each year.

The Little Known Research Associates

Herbert Friedmann
Director, Los Angeles County Museum

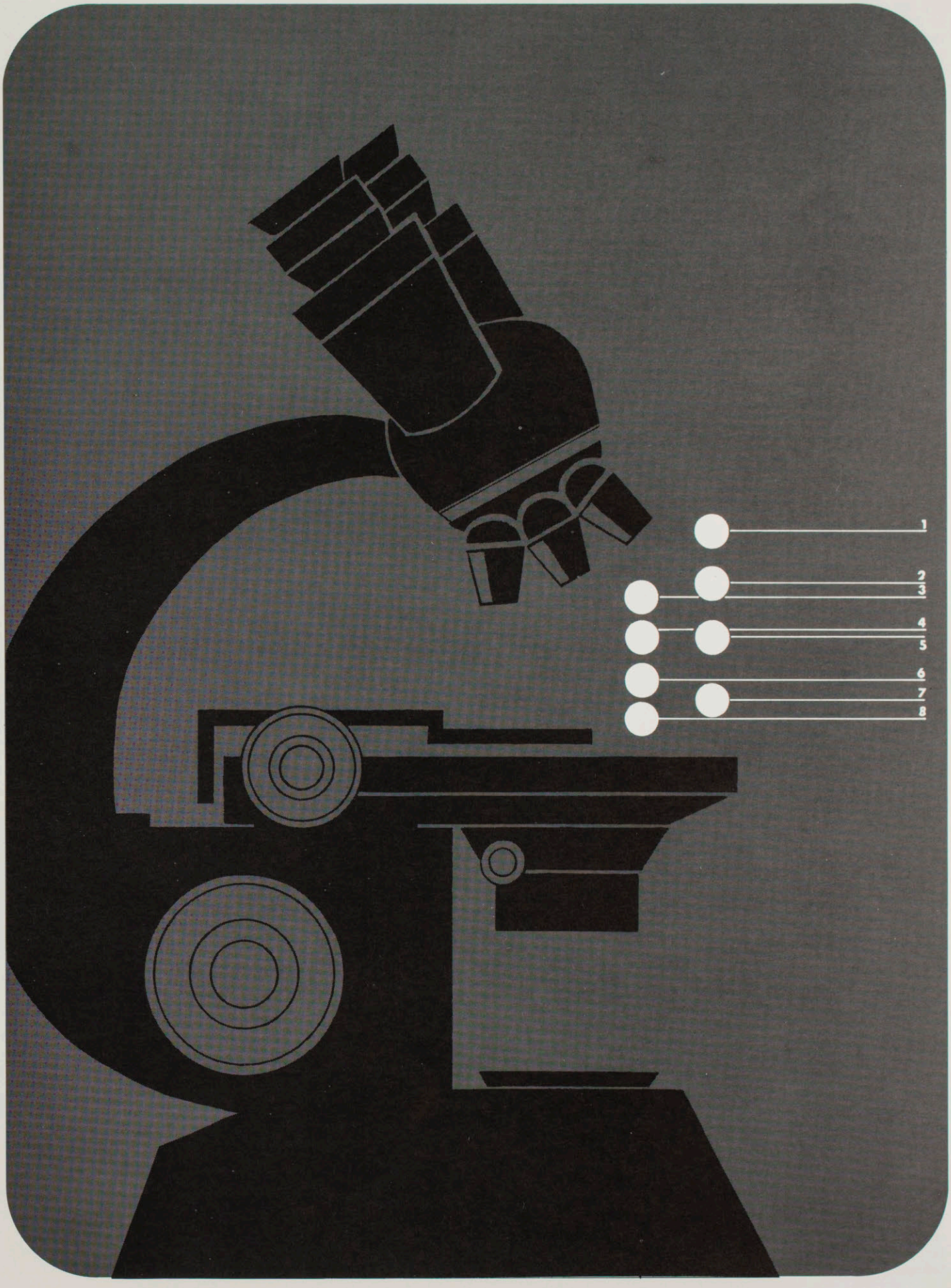
Although of vital importance to the intellectual climate and well-being of its professional staff and to the national and international prestige of the Museum, its activities in advancing the total of recorded knowledge by researches based on its collections or on problems emanating from the study of these materials, are probably less known to the public and even to the members of the Alliance than any other aspect of the Museum's over-all comprehensive program. Because the immediate results of many research studies interest only a few people, often only a particular professional group and not the general public, these activities are usually conducted with special funds outside of the County, tax supported, budget of the Museum.

In the course of their researches the professional staff of the Museum keep in close touch with their colleagues in the universities and colleges of the Los Angeles area and elsewhere, and, indeed, often work on projects in cooperation with them. To enhance the mutual benefits to the non-Museum staff whose studies require examination of our collections, and to the Museum staff who cooperate with these workers, the group known as the Research Associates of the Los Angeles County Museum has been in existence for many years. Appointments to this group are made by the Director with advice from pertinent staff experts, and are predicated upon the research achievements and plans for future work of the individuals so designated. These appointments normally have a tenure of three years and carry no remuneration or duties. They are subject to renewal at the discretion of the Museum. In effect, the Research Associates serve to enlarge our staff without cost to the County, to afford us with expert knowledge and experience even in some special areas that may not be covered by our own personnel, and to expedite and to broaden the utilization of our collections as sources of new information. In some instances, individuals not on the staffs of other institutions have been enabled to receive research grants through their affiliation with the Museum, and in return the Museum has profited by expediting their researches and by obtaining from them parts or all of the materials they collected.

It is the purpose of this paper to introduce to the Alliance some of these honorary workers who contribute to the total professional output of the Museum. As might be expected, their numbers are greater in some fields than in others, because the collections that draw them here are more extensive and more important in some disciplines than in others. Thus, the greatest number of research associates in any one department, sixteen in number, are in Vertebrate Paleontology. The Museum has certainly an outstanding collection of western American Pleistocene and earlier fossil material and carries on a long continued active program of research. In other departments with large collections, smaller, but still sizeable, numbers of research associates work with the materials and with the staff. Thus, Entomology has seven, Ichthyology has six, History and Ornithology have five each, Geology-Mineralogy and Invertebrate Paleontology have four each, Anthropology and Archeology together have three, as does also Herpetology, an area in which we have as yet no staff curator! Mammalogy and Invertebrate Zoology have two each. To judge by the past two years, the number of research associates is growing constantly. The present roster numbers 57 individuals, a far greater number than we may possibly present in this article. It is necessary, therefore, to select from them a small number chosen as representatives of various fields of specialization.

Not only does the number of research associates vary in different fields, but the amount of time they actually spend in or with the Museum's collections differs greatly among these individuals. Some of them, like Dr. W. D. Pierce, Dr. H. Howard, or R. Weinstein, work in the Museum a good part of every week, almost every day; others may hardly enter the building except at irregular intervals, but are working on specimens borrowed from the Museum.

The current list of research associates, research assistants, and field assistants, presently cooperating with the Museum on a voluntary basis follows. The individual field of interest is given after each name.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(1) MR. RALPH ALTMAN, research associate in anthropology, is the first incumbent of the recently created position of Curator of Ethnic Collections at the University of California at Los Angeles. An expert in the field of the arts and crafts of primitive peoples, both of the living present and of the archeological past, Mr. Altman has seen, handled, and studied a vast amount of ethnological and archeological art. He has been able to coordinate and to synthesize the divergent approaches to its appreciation of the scholar, the collector, the dealer, and the exhibitor. In his new position he has assured the Museum of the friendly cooperation of his great institution in the exhibition and research programs in anthropology of the Museum.

(2) DR. J. N. BELKIN, research associate in entomology, and Professor of Zoology at University of California at Los Angeles, is one of the world's outstanding specialists on Diptera, the great order of insects that includes such very troublesome groups of medical and economic significance as the flies and mosquitoes. Dr. Belkin's published works, which are very numerous, are of a highly technical nature, and therefore may be outside the knowledge of most people. An outstanding example of his recent work is a two volume compendium on the mosquitoes of the South Pacific, published in 1962 by the University of California. Dr. Belkin's association with the Museum was further enhanced when our present Curator of Entomology, Dr. Charles L. Hogue, joined our staff. Dr. Hogue took his doctorate under Dr. Belkin and made all the hundreds of highly accurate illustrations for the two volumes referred to. Dr. Hogue still collaborates with Dr. Belkin on further researches.

(3) DR. B. W. HALSTEAD, research associate in ichthyology, and Director of the World Life Research Institute at Colton, California, is particularly interested in noxious and venomous marine creatures, particularly fishes. He brings to his work the valuable, but all too rare, combination of a medical education with training as a zoologist, and considers himself best described as a medical ichthyologist. Much of his work has been carried on at Loma Linda University Medical Center, but in the past few years Dr. Halstead has directed his own Institute doing research with the support of grants and contracts from various sources, particularly the Office of Naval Research. He has recently presented to the Museum a large collection of preserved, fully identified and documented specimens of fishes, chiefly from the South Pacific. It is his expressed intention to give additional material to us from time to time as his work continues, and he plans to cooperate closely with the Museum in its ichthyological projects.

(4) DR. J. W. HARDY, research associate in ornithology and Director of the Moore Laboratory of Zoology at Occidental College, is interested primarily in the evolutionary relationships and behavior of birds of the United States, Mexico, and Central America. He has published numerous scholarly papers on the habits and classification of the American jays, of some species of Mexican parrots, and of blackbirds. He has also published a detailed study of the life history and distribution of the least tern in the Mississippi valley. In many ways the ornithological collections over which he presides at Occidental College and the collections of the Museum supplement each other. As a result there is frequent and mutually productive interchange of information and ideas, between Dr. Hardy and our staff. In his teaching at Occidental he also utilizes Museum exhibits and materials thereby opening the eyes of his students to the potentialities of this institution.

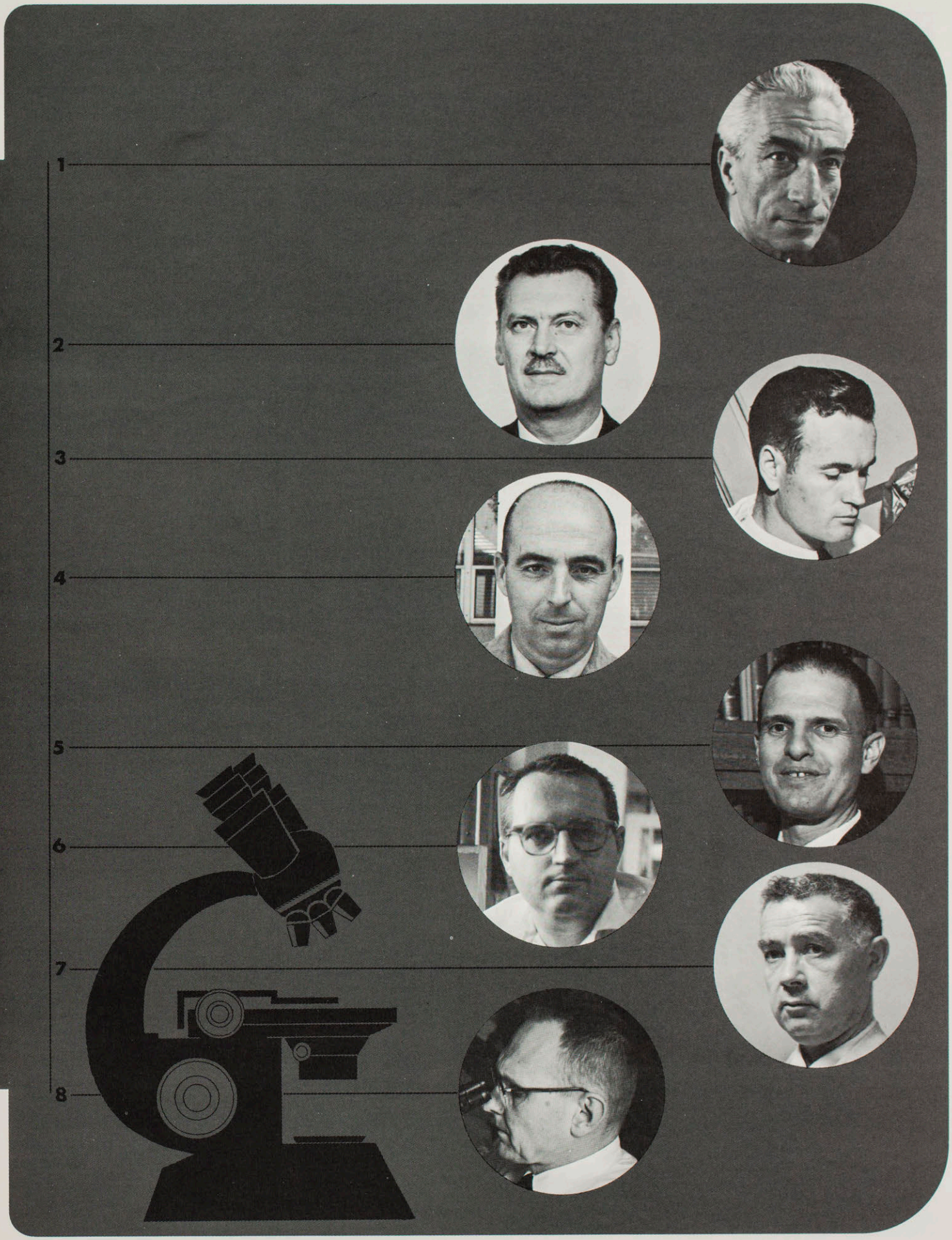
(5) DR. J. M. SAVAGE, research associate in herpetology and Professor of Biology at the University of Southern California, is a specialist on Central American amphibians and reptiles. He has cooperated in this field with the Museum's staff and programs, particularly in Costa Rica, and has been available as a consultant in a field in which we have not as yet appointed a staff specialist. His association with the Museum goes back to the very beginning of his scientific career. During his high school days he was a participant in the Museum's Natural Science Workshop. Because of the close proximity of his University to the Museum, and because of his interest in the aspects of zoology inherent in the Museum's normal program, he represents a bond of scientific sympathy and understanding between the two institutions.

(6) DR. A. STARRETT, research associate in mammalogy, formerly of the faculty of the University of Southern California, and subsequently of Northeastern University in Boston, is currently spending a year in the Museum working on our large collection of bats from Costa Rica. He maintained his research relations with the Museum while he was at Northeastern University and is back here for a year of research. He is interested not only in the classification and distribution of the surprisingly complex and divergent bat fauna of the Central American region, but also is pursuing comparative studies of the anatomy of these flying mammals. He is attempting to interpret their structural specializations in terms of the aeronautical aspects of their mode of flight.

(7) MR. ROBERT WEINSTEIN, research associate in history, is particularly interested in the history of photography in the West, with its natural corollary, the photographic archives of the region. He has also studied extensively the special subject of maritime history of the Pacific coast. Aside from giving most generously of his time and energies to the Museum, where he comes in almost every day for a few hours, he acts as consultant to the Special Collections department of the library at the University of California at Los Angeles, and, unofficially, to several other libraries and museums in the West. Working with the staff of the Museum's Division of History, Mr. Weinstein initiated and helped the Museum secure the great Greene collection of photographic archives of southern Californiana. He is also a member of the staff of the Ward Ritchie Press, a local significant publisher of western Americana, and has brought his intimate knowledge of printing problems to the use of the Alliance in the design of the recent announcement of the History Program Series.

(8) DR. J. A. WHITE, research associate in vertebrate paleontology, Professor of Zoology at Long Beach State College, is a noted specialist in the study of fossil rodents. These creatures, because of their small size, are often referred to as micro-mammalian fossils. These include small mice and rats as well as larger species, and form an important part of the collections made in the course of the Museum's field programs in the Anza-Borrego desert, in the Channel Islands, and in the excavations at Rancho La Brea. Dr. White has cooperated closely for years with the Museum in these research projects, and has just returned from a sabbatical year at Berkeley, during which period he greatly advanced his work on the collections that he took along from the Museum to study.

Altman, R. C.	*anthropology*
Belkin, J. N.	*entomology*
Bell, M.	*vertebrate paleontology*
Boolootian, R. A.	*invertebrate zoology*
Brattstrom, B. H.	*vertebrate paleontology*
Brownell, R.	*vertebrate paleontology*
Caldwell, M. C.	*ichthyology*
Campbell, B.	*invertebrate paleontology*
Casebeer, R. E.	*entomology*
Chasse, B.	*vertebrate paleontology*
Chew, R. T.	*geology-mineralogy*
Collias, E. C.	*ornithology*
Collias, N. E.	*ornithology*
Comstock, J. A.	*entomology*
Coulombe, H.	*mammalogy*
Crane, J. M.	*vertebrate paleontology*
Dixon, K. A.	*anthropology*
Eberhard, R. E.	*ichthyology*
Etheridge, R.	*herpetology*
Evans, W. E.	*ichthyology*
Fitch, J. E.	*vertebrate paleontology*
Forbes, J. D.	*history*
Furst, P. T.	*anthropology*
Garbani, H.	*vertebrate paleontology*
Gregg, W. O.	*invertebrate paleontology*
Halstead, B. W.	*ichthyology*
Hardy, J. W.	*ornithology*
Howard, H.	*vertebrate paleontology*
Howell, T. R.	*ornithology*
Ingle, J. C.	*invertebrate paleontology*
Jennings, D. L.	*history*
Kluge, A. G.	*vertebrate paleontology*
Lipps, J.	*invertebrate paleontology*
Loomis, R. B.	*entomology*
Maxon, J. H.	*vertebrate paleontology*
Merriam, R.	*geology-mineralogy*
Mitchell, E. D.	*vertebrate paleontology*
Mohr, J. L.	*invertebrate zoology*
Morris, W.	*vertebrate paleontology*
Pierce, W. D.	*entomology*
Reimer, R.	*vertebrate paleontology*
Ryckman, R. E.	*entomology*
Savage, J. M.	*herpetology*
Schick, R.	*entomology*
Springer, S.	*ichthyology*
Starrett, A.	*mammalogy*
Teague, N.	*history*
Tedford, R. H.	*vertebrate paleontology*
Tuttle, Mrs. E. E.	*geology-mineralogy*
Udvardy, M. D. F.	*ornithology*
Vaughn, P. P.	*vertebrate paleontology*
Wake, D. B.	*herpetology*
Walker, B. W.	*ichthyology*
Weinstein, R. A.	*history*
White, J. A.	*vertebrate paleontology*
Willoughby, D. P.	*anthropology*
Woodard, G. D.	*geology-mineralogy*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MUSEUM SPOTLIGHT

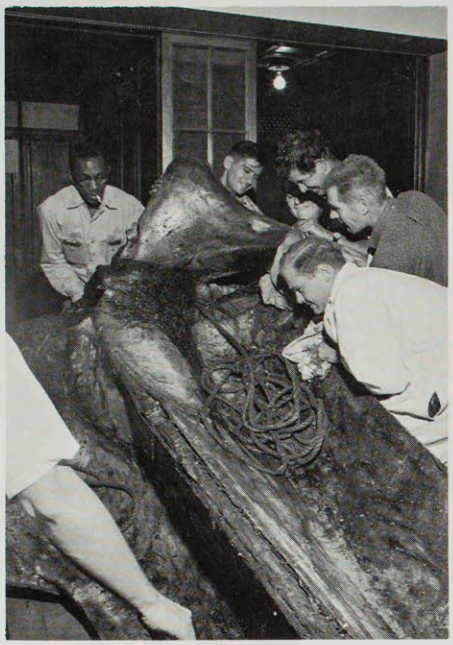
GIFT

Mr. G. S. Spragins of Arcadia recently presented the History Division with a large oil painting (102″ x 63″) of a Colorado landscape, by the relatively unknown artist Joseph Hitchins. A romantic painting in the Western monumental style it is an important addition to the Museum's growing collection of regional art. Joseph Hitchins was born in London, England, in 1838.

ACQUISITION PROBLEMS

Blood, sweat, and whale oil permeated the lower halls of the Museum one day in September when three whale skulls were delivered for scientific study. It was a long struggle that met with difficulties.

To transport one of the specimens to the fourth floor for study it was necessary to cut the skull to the size of the freight elevator. These skulls augment nearly 100 modern whale specimens now in the Museum's research collection.



PRIMITIVE ARTS ON DISPLAY

On your next visit to the Museum, be sure to see the new exhibits of Pre-Columbian and African statuary in the Main Floor hallways. Additions will be installed regularly in the expansion program now in effect.

RANSOM MATTHEWS

The Museum staff and friends were saddened by the death of Ransom Matthews shortly after his recent retirement (See Quarterly, Vol. 3, No. 1). His dedication to the preservation of the past created a vast scope in the Mechanical Sciences collection. Mr. Matthews was a founder and life member of the Horseless Carriage Club of America, which recently installed a plaque in the Hall of Transportation in tribute to him as an ardent worker in the preservation of automotive history.

INDIAN OCEAN EXPEDITION

Dr. Shelton P. Applegate, Associate Curator of Vertebrate Paleontology and authority on sharks—both fossil and living—was a member of the month-long United States Expedition to the Indian Ocean, sponsored and conducted by the Woods Hole, Massachusetts, Oceanographic Institution. Some 20 scientists from the United States, Norway and Australia were on board the ship, which visited about a dozen Indian Ocean Islands. Various marine biology research and collecting projects were augmented by seminars conducted by the scientists at various island cities. Enroute to join the expedition, Dr. Applegate visited Durban, South Africa, at the request of the Oceanographic Research Institute there, to evaluate specimens from a recently discovered 20-million-year-old fossil shark deposit in Natal Province.

GEM EXHIBITION PREVIEW

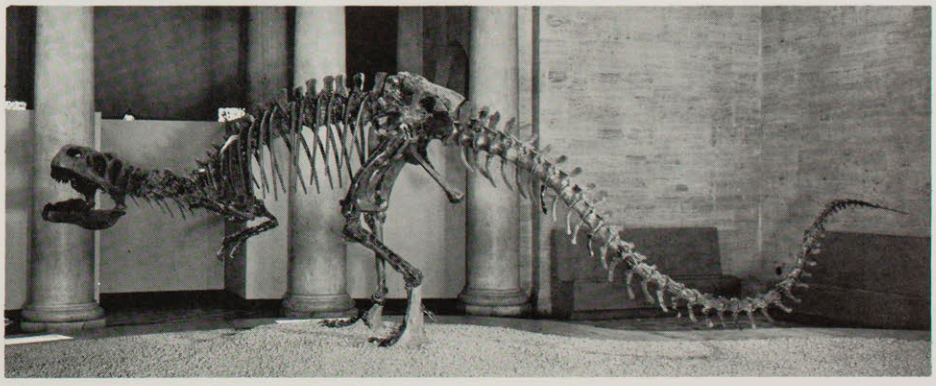
On September 8, over 1500 members and guests attended the reception and preview of "The Lasting Beauty of Gems." This fascinating display of gems, minerals, jewelry, lapidary work and fossils was selected from the prize collections of members of the California Federation of Mineralogical Societies. Robert Gaal, Curator of Geology and Mineralogy, and Mrs. John Short, exhibition chairman for the Federation, were delighted by the enthusiasts who jammed the exhibition gallery. Mrs. James F. LeSage, Alliance hospitality chairman, directed arrangements for the opening event of the season. When the exhibition closed on November 1, an attendance record of 38,627 had been set for an exhibit of this kind.

A DINOSAUR IN THE FOYER

The first major installation in the Museum's new expansion program is the dinosaur (*Antrodemus valens,* also known as Allosaurus) now on view in the Main Foyer. Twenty-five feet long, six feet high at the hips and weighing between two and three tons, this enormous flesh-eating specimen was one of the most formidable animals that ever lived. A ferocious predator, it was capable of overpowering other and larger dinosaurs. It is the first of six dinosaur skeletons the Museum will ultimately exhibit in the planned Mesozoic Hall along with other giant reptiles.

Of special interest to museum-goers is the fact that this enormous skeleton seems to have no visible support. This effect was achieved by an intricate assembly involving an armature of welded steel rod passing through holes drilled in the bone. These holes are lined with moulded fiber glass. The head and neck section is cantilevered to allow it to extend in a life-like posture without external support.

Preparation of *Antrodemus* represented 14 months of work by Leonard C. Bessom, Jr., Senior Museum Preparator, and Michael K. Hammer, Museum Preparator, under the direction of Dr. J. R. Macdonald, Curator of Vertebrate Paleontology, and Dr. Shelton P. Applegate, Associate Curator of Vertebrate Paleontology.



MUSEUM SPOTLIGHT

JAMES H. McLEAN

James H. McLean, an expert on the marine mollusks of the West Coast, has joined the Museum science staff as Curator of Invertebrate Zoology. Mr. McLean came to the Los Angeles County Museum from Stanford University and the Hopkins Marine Station at Pacific Grove where he was engaged in research and study for the past six years. A graduate of Wesleyan University, Connecticut, he will receive his doctorate from Stanford University in January.

Robert Gaal

ROBERT GAAL

Robert Gaal, instructor in mineralogy at Whittier College, has been appointed Museum Curator of Geology and Mineralogy. As a native of Los Angeles, he participated in the Museum Natural Science Workshop program while a student at John Marshall High School, and continued his Museum association as a student worker while studying for his Masters degree at the University of Southern California. He received his B.S. from U.C.L.A. and will achieve his Ph.D. early next year. An authority in the field of marine geology, Mr. Gaal is currently preparing studies on the Santa Catalina Basin and surrounding areas.

James H. McLean

RECENT GIFT

A large cluster of 95 pine cones compactly grown in spiral arrangement around the end of a branch, truly a botanical wonder, was recently received by the Museum. The cluster is so unusual that descendants of Elisha Beckwith, the collector, have cared for it for 115 years.

Mr. Beckwith, grandfather of the donor, came to California from Pennsylvania early in 1849. During his travels around California looking for gold, he came across the remarkable pine cone cluster and took it home as a natural treasure. About 1960, the Museum Curator of Botany, Dr. Bonnie C. Templeton, was called to the home of Miss Laura Gleave to identify it. Miss Gleave was told of its scientific value and that should she ever wish to give it to the Museum that we should be pleased to receive it. In January 1964 Miss Nell M. Gleave fell heir to the treasure and has given it to the Museum.

BOOK REVIEW

Lincoln In Photographs, *by Charles Hamilton and Lloyd Ostendorf. (University of Oklahoma Press;* 409 pp. $19.50)

The epochal *Photographic History of the Civil War* was published, to the delight of scholar and historically-minded layman alike, in 1911, the semi-centennial of the American war between the states. This pictorial record of the "irrepressible conflict" was a fitting memorial to that terrible clash of arms which preserved the young republic. At the same time it well revealed the vivid power of the photograph to hold indelibly the receding events of the past and to communicate the direct essence of the human participants. Unsurprisingly, as the student of this terrific struggle leafs through these awesome and inspiring ten volumes, there is one stark figure who looms over "the dark and hallowed ground." Overshadowing all these tragic pawns of American destiny towers the gaunt image of our first great martyred president; and it is his well-known presence that imposes itself upon us.

Now in the centennial years comes a book, *Lincoln in Photographs,* that is the definitive visual portrayal of Abraham Lincoln. In this album of every known pose of Lincoln, assiduously compiled and arranged by Charles Hamilton and Lloyd Ostendorf, we, in this country which he helped save, and the entire civilized world—for his influence has been boundless—have an invaluable heirloom to treasure and to cherish.

In this spacious gallery of Lincoln photographs, we have in our possession something unique and strange. It seems to transcend even the fine word portraits of the many writers, from Herndon to Sandburg, who have tried their hand in capturing the complex genius of this most elusive of American leaders. In perusing these 119 separate photo-

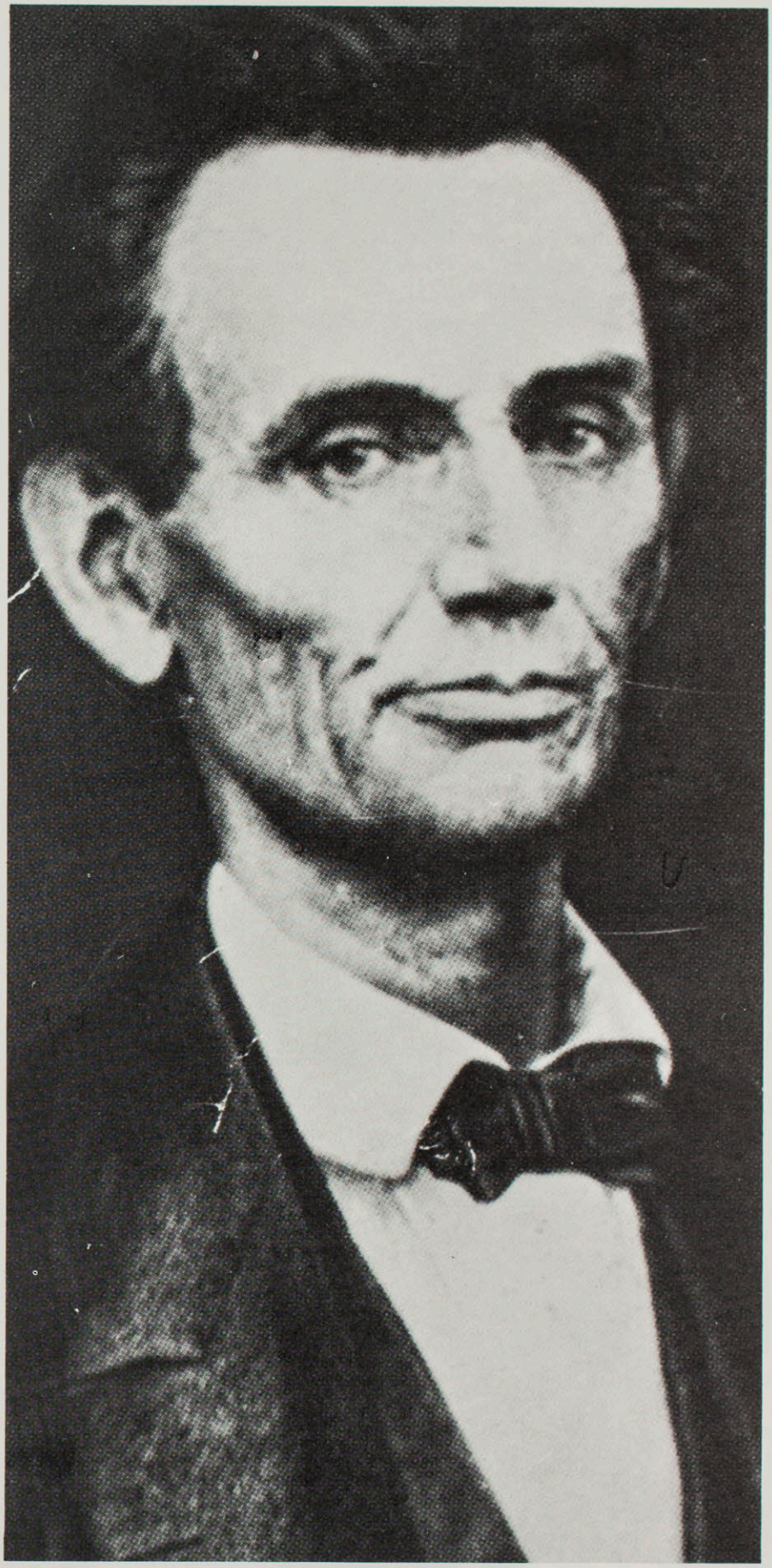
graphs of the familiar and arresting face one is struck by the realization that Lincoln's greatness stemmed from his natural capacity to be fully human in the midst of the worst happenings. To be consistently human, to be in Whitman's perfect line, "the sweetest, wisest soul of all my days and lands," even when that day and land were cursed with fratricide —this stance of decency and sanity comes through clearly in these picture-documents.

But, again, a human being is transmitted here. The telltale camera catches him in characteristic poses of awkward self-consciousness. It does nothing for his very real homeliness, about which he was properly philosophical. R. M. Cole, the photographer, reminisced how Lincoln once shook his head and wondered aloud "I cannot see why you artists want a likeness of me unless it is because I am the homeliest man in the state of Illinois." But he also knew the political value of the then revolutionary, new medium. About the famous pose taken by Mathew Brady, a few minutes before the delivery of the Cooper Union Address, Lincoln afterwards said that the widely distributed portrait had put him in the White House.

This volume is dedicated to the illustrious Frederick Hill Meserve, the foremost cataloguer of Lincoln photographs. Building upon his vast personal collection, Messrs. Ostendorf and Hamilton have completed an edifice of meticulous scholarship. Specialists on Lincoln will welcome the sections on doubtful and spurious photographs. Historians will be pleased at the chronological sequence which is reproduced with Ostendorf's numerical arrangement on pages 354 to 392. Those interested in the development of photography as a legitimate art-form will surely rejoice in the array of daguerreotypes, tintypes (just one), ambrotypes, wet plate collodion photographs and stereographs displayed in this volume.

But there is no need to limit the uses of this book. This collection should be popularly received, for Lincoln's appeal to humanity is universal and eternal.

BURT REINER
Preparator
History Division



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